THE GROWTH OF STORAGE CAPACITY IN RELATION TO COMMODITY CREDIT CORPORATION STORAGE POLICY WITH PARTICULAR REFERENCE TO KANSAS TERMINAL ELEVATORS

by

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B. S., Kansas State University, 1962

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Agricultural Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1964

Approved by:

Major Professor

PREFACE

The Commodity Credit Corporation has extensively affected the marketing of grains since its inception in 1933. This thesis is intended as a brief outline of the Commodity Credit Corporation policies and activities which have influenced the grain marketing industry. The study has particular reference to effects on the storage capacity of Kansas terminal elevators. It is the author's sincere hope that he has carried out his intentions successfully.

Unfortunately, it is impossible to enumerate all of the persons who were of assistance in the research and writing of this thesis. Special recognition must be given the author's major professor, Dr. Leonard W. Schruben, for his valuable time and helpful suggestions. The author also recognizes the considerable assistance received from Dr. L. Orlo Sorenson. A vote of thanks goes to the many other members of the Department of Economics and Sociology at Kansas State University who aided in this project. Last, but certainly not least, the author wishes to wholeheartedly thank his wife, Patricia, for her patience, understanding, and assistance during the period when this manuscript was being written.

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CHAPTER I

INTRODUCTION

The formation of the Commodity Credit Corporation (hereafter referred to as CCC) in 1933 as an agency of the Federal government created a grain marketing institution of considerable importance. Much of its growth was realized after World War II due to substantial government investment in price support operations.

Such an agency, engaged in the fundamental processes of storing and merchandising grain with relatively unlimited funds and not required to operate at a profit, undoubtedly affected the structure of the grain markets. The direction and extent of these effects is the problem dealt with in this paper.

The Problem and Its Setting

On June 1, 1950, capacity of commercial grain warehouses in Kansas was 174.1 million bushels.[1] By January 1, 1963, total capacity had been expanded to 845.5 million bushels.[2] This enormous growth in storage facilities was one of the outstanding changes in Kansas grain marketing during the period following World War II. The significance of the growth in storage facilities lay in the fact that it closely paralleled a period

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[1]Letter from Mr. J. E. Pallesen, State Statistician, Kansas Crop and Livestock Reporting Service, Topeka, Kansas, February 8, 1963.

[2]Ibid.

of increasing price support expenditures by the Federal government.

Fixed price supports on a bushel basis coupled with allotments and marketing quotas defined as the amount that could be produced on a given acreage placed emphasis on per acre production. Non-recourse loans at a level higher than market equilibrium, which allowed the farmer to use his crop for collateral and turn it over to CCC rather than pay off the loan, rapidly increased stocks of grain held by the government.

As stocks grew and storage facilities became inadequate, pressure was exerted to increase capacity by use of occupancy guarantees and accelerated depreciation write-offs.[1] Any elevator, processing firm, or individual had the opportunity to provide storage space. The builder was assured his facility would be filled to a certain per cent of capacity for a guaranteed length of time if it was built under an occupancy guarantee contract. If the facility was not utilized to the extent called for in the contract, CCC was liable for the difference between utilized capacity and the contract guarantee. In addition, the 1954 internal revenue code allowed the warehouseman to construct grain storage facilities and depreciate them out over a five year period for income tax purposes if he so desired.

Terminal grain elevators in Kansas shared in the rapid expansion of storage facilities. Expansion was due not only to additions to existing elevators and mills, but also to new firms entering the grain storage field. A lessening of importance of the old, established terminal market as a storage center was an additional trend. This trend was recognized in the 1954 Yearbook of Agriculture.

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[1]A more complete discussion of incentives offered in the attempt to increase storage capacity will come later in the study.

> The function of physical concentration of grain in the terminal markets except to supply processing industries probably is less important than formerly. Storage capacity at interior primary markets and at the ports has increased more rapidly than in the terminals.[1]

Construction of elevator facilities in Kansas between 1950 and 1960 indicates the presence of this trend. Storage capacity at country points and at interior terminals increased faster than at older, established terminal markets.

That the emphasis on construction of storage facilities was a direct result of CCC operations, appeared to be a logical hypothesis. As in any situation, however, there was more involved than was readily apparent. Yet it can be said, the tremendous increase in storage capacity likely would not have occurred without the influence of CCC storage activities.

Hypothesis and Procedures

The hypothesis adopted for this study was that activities and policies of CCC and the development of grain storage facilities were closely correlated. This hypothesis had particular reference to Kansas terminal elevators.

Several procedures were chosen as a basis on which the stated hypothesis was examined. These procedures were:

(1) To briefly describe the history of CCC, its grain marketing activities, and the authority under which it carries out its activities.

(2) To discuss the magnitude of CCC storage operations and other grain marketing functions in which CCC is involved.

(3) To portray the development of storage capacity during the

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[1]Edward A. Duddy, "The Place of Terminal Markets," Marketing, The Yearbook of Agriculture 1954, The U.S. Dept. of Agriculture (Washington: U.S. Government Printing Office, 1954), p. 39.

period when government price support operations were at their peak. (4) To analyze changes in the size, number, and operations of terminal elevator facilities in Kansas in an attempt to establish the relationship between CCC activities and changes that have occurred. (5) To present a summary of the study and offer conclusions as to the effects of CCC activities on Kansas terminal elevators in particular and grain marketing in general.

The method of analysis used in this study was primarily subjective and descriptive, with empirical procedures used as was consistent with the data on which it was based. Comparisons of the operations of terminal elevator and processing firms for different years formed the foundation of the study. In addition, information on the operations of CCC was used to indicate its influence.

Sources of Data

A considerable portion of data used in this study was taken from surveys of terminal and sub-terminal elevators and wholesale grain processors made in 1954 and 1961 by the North Central Grain Marketing Research Committee. The committee is composed of agricultural economists from universities in the North Central Region plus representatives of the United States Department of Agriculture.

The primary source of survey data was personal interviews with officials of firms that met the definition of terminal and sub-terminal elevators or wholesale processors as set forth by the committee. Secondary sources of data were utilized if needed and available in suitable form.

Because of the limited number of plants and facilities meeting the qualifications of survey definitions, an attempt was made to interview the entire population in each state. Although response was not 100 per cent,

cooperation was admirable and schedules were obtained from approximately ninety per cent of Kansas firms contacted. As in any survey of this type, the completeness and useability of the information gained varied greatly from question to question on the schedule.

The 1954 population of terminal and sub-terminal elevators and wholesale processors was established from trade association directories, state and Federal lists of licensed grain warehouses, and consultation with persons active in the grain trade. The survey itself was conducted under the auspices of Cooperative Regional Research Project NCM-10 in mid-1954. Most of the information gained represented the twelve month period covering the 1953-1954 grain marketing year. In some cases, however, it indicated the operations of the plant in its immediately preceding fiscal year. Where unusual circumstances had affected the firm's operation in the period covered by the survey, "normal" or "typical" figures were obtained and used.[1]

For the 1954 survey, terminal and sub-terminal elevators were defined as those which handled and stored bulk grain, fifty per cent or more of which was originated by other elevators or handlers rather than coming directly from farmers. These elevators were required to have a bulk grain storage capacity of at least 100,000 bushels to be included in the sample. Wholesale grain processors were defined as raw grain processors whose output of products was sold primarily to wholesalers, retailers, and other dealers instead of direct to the final consumer. A further sampling stipulation was that wholesale processing plants have a daily capacity of

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[1]Kenneth R. Farrell, Grain Marketing Statistics for the North Central States, A Report for the North Central Region Grain Marketing Research Committee (Columbia, Mo.: Missouri Agricultural Experiment Station, June, 1958), p. 17.

fifty tons of product or 100,000 bushels of bulk grain storage capacity.[1]

The 1961 Kansas sample population was developed primarily from that of 1954. Additions and deletions were made by consulting trade magazines and directories, Uniform Grain Storage Agreement (UGSA) lists of approved warehouses, and such other sources as were available. When doubt arose as to whether a certain firm should be included, a short questionnaire was mailed which outlined the survey definitions. This was accompanied by a letter asking the operator's help in developing the population by indicating whether or not his plant or facility met survey definitions.

The population was tentatively established and personal interviews were begun in early 1961. These survey schedules asked for the firm's operation during the 1960 calendar year. The 1961 survey was one of the major parts of Cooperative Regional Research Project, NCM-19.

Generally speaking, the definitions of terminal and sub-terminal elevators and wholesale processors used for the 1961 survey were the same as those used in 1954. Some minor changes were made, however. Terminal elevators included all elevators which handled and stored bulk grain, subject to the condition that fifty per cent or greater was originated by other elevators or handlers.

Grain processors included flour mills, oilseed extraction plants, wet corn millers, livestock feed mixers, cereal manufacturing plants, brewers, and industrial alcohol plants. The population included,

> . . . only (1) those processors and manufacturers whose processed products are manufactured primarily from bulk grain and oilseed crops, (2) those feed processing plants that have at least 50 tons daily capacity or 100,000 bushels of bulk grain storage capacity and (3) those flour mills that have at least 500 sacks daily capacity or

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[1] Ibid.

100,000 bushels of bulk grain storage capacity.[1]

In the preceding definition a "sack" of flour is taken to mean 100 pounds. As in 1954, wholesale grain processors had to dispose of the bulk of their products to other than the final consumer.

All told, the 1954 Kansas survey netted eighty-four completed schedules. In 1961, slightly over 100 schedules were completed adequately enough to be useful. As it was the intent of this study to compare changes in the operations of firms, both as individuals and in groups from one survey to the next, considerable time and effort was expended in determining which of the schedules should be used in the final analysis. To do this, several problems had to be resolved.

The first problem faced was the slight differences that existed in the definition of firms included in the respective surveys. The more specific 1961 definitions of terminals, sub-terminals, and wholesale processors was chosen as the basis. It was then necessary to check the 1954 schedules against this set of definitions in order to eliminate those firms that did not qualify.

This action, in turn, made it a necessity to examine the firms in the 1961 survey to determine if any not included in the 1954 survey rightly should have been. If this was the case, the firm was omitted from the final list. This enabled the author to ascertain which facilities were constructed subsequent to the period covered by the 1954 survey.

The third problem pertained to the schedules themselves. In some instances, certain firms were eliminated due to incomplete information

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[1]Population Definitions, NCM-19 Survey of Terminal Elevators and Wholesale Processors (Manhattan, Kan.: in the grain marketing files of the Department of Agricultural Economics, Kansas State University).

on one or both schedules. Others were eliminated when it could not be established beyond reasonable doubt, which facility a schedule represented. This situation arose where a facility had changed ownership or name and the change could not be traced through use of other sources of information.

A fourth problem existed when one company carried on two or more types of operations at the same facility and both operations were combined on one schedule but not on the other. If possible, these were broken down into separate operations. In other cases, it was most feasible to combine them as one.

The final problem involved those firms which had altered their operation between 1954 and 1960. Some terminals and processors in the 1954 population had switched to a country elevator operation by 1960. This fact had to be pointed out as a change in market structure. On the other hand, there was at least one incident where a facility operating as a country elevator in 1954, became a terminal by 1960.

The resolution of the above problems were possible through study of Kansas Grain and Feed Dealers Association Directories, UGSA lists of approved warehouses and department grain marketing research files. In the final analysis, seventy-seven of the 1954 schedules and ninety-three of the 1961 schedules were utilized.

Since it was desirable to have some measure of the accuracy of the survey data, total capacity of the elevators on the schedules were compared to those listed in the Kansas Grain and Feed Dealers Association Directory. For the 1954 survey, the 1954 Directory was used. Total capacity of sixty-seven firms in the survey was also given in the Directory. The null hypothesis was that no significant difference existed in total capacity from the two sources. A t-test of significance was run

on the differences and a computed t value of -1.356 was obtained. The value derived from Snedecor's t-table[1] at the .05 probability level and 66 degrees of freedom was -1.996. From this it was concluded that evidence was not sufficient to reject the null hypothesis.

The same procedure was followed in testing the 1961 survey data except that it was compared to the 1960 Directory. A computed t value of -.166 was obtained. Again it was concluded that evidence was insufficient to reject the null hypothesis.

In order to present a more complete pattern of development of grain storage facilities at terminal elevators and processing platns in Kansas, a list of firms was compiled from the 1945, 1950, 1955, 1960, and 1963 Directories. This was then utilized to show changes in storage capacity by type of operation and by major terminal markets and processing centers within the state.

Data used in demonstrating the extent of CCC grain marketing activities were compiled from several sources. Information on surplus stocks, USSA approved grain storage capacity, and CCC storage policy was obtained through correspondence with the Kansas City office of the Commodity Credit Corporation. CCC chartbooks[2] provided a summary of price support and storage operations. Various other sources were also utilized to verify certain of the data.

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[1] George W. Snedecor, Statistical Methods (Ames, Iowa: The Iowa State University Press, 1956), p. 36.

[2] U.S. Dept. of Agriculture, Commodity Credit Corporation, Charts (Washington: U.S. Government Printing Office), Nov., 1961 and March, 1963 issues.

Review of Literature

There has been considerable discourse on the impact of CCC activities on the structure of grain markets. Unfortunately, little of this effort has amounted to more than personal opinion or conjecture. This is not surprising, however, in light of the difficulty in procuring an adequate volume of accurate, complete, and useful data on which to base an empirical study. In addition, there is the problem of applying economic theory in a manner that will allow the researcher to synthesize a grain marketing organization unaffected by government action. This step is of particular importance if any meaningful comparisons and evaluations are to be made. Apparently, this has been a difficult problem to reconcile.

Despite the lack of empirical analysis, a substantial number of valuable concepts are present in available literature. Most of these concepts lie in the realm of public storage policy rather than dealing with the effects of a prolonged period of government storage operations on market structures.

Storage creates time utility. It is made necessary by uneven production coupled with a consumption pattern that exhibits a greater degree of stability over time. Storage of certain agricultural products, particularly grains, is required because of the harvest which takes place within a short period whereas consumption continues at a relatively even pace throughout the year. Besides this, there is a variation in year to year production. The storage function is utilized as a means of gaining some degree of harmony between production and consumption.

Public policy toward storage of grain has existed for hundreds of

years.[1] It will likely continue for many more. In the United States, storage policy has been closely tied to general agricultural policy. This fact was pointed out by McCoy who said, "Public grain storage policy in the United States has been largely incidental to agricultural support programs. Storage has been a means of accomplishing various objectives of agricultural policy."[2]

The same author outlined four objectives of public grain storage policy. They are:

> (1) Stabilization of use of physical products through time, (2) stabilization of farm prices, demand and gross farm income, (3) the raising of prices and income of farmers, and (4) national security.[3]

The utilization of a public grain storage policy in implementing farm programs has been attacked because withdrawal of grains from regular trade channels has resulted in huge surplus. Some of the pitfalls of a storage-oriented program are summarized in a 1952 publication.

> The history of the Stabilization Corporations under the Farm Board and of storage operations under the Agricultural Adjustment Act and subsequent legislation shows that it is very easy to withdraw commodities from the market as a means of raising prices but difficult or impossible to liquidate these in accordance with any economically sound plan of 'orderly marketing' or production adjustment. Sale of government stocks will take place only in periods of extraordinary demand, particularly wartime. Extensive storage in peacetime thus is costly and contributes to generally inflationary movements. It is impossible to achieve a useful and defensible storage program by using 'parity' as the criterion for withdrawing

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[1]It is neither the authors intention or desire to present a full discussion of the development of storage policy. Benjamin Graham covers this subject quite well in his chapter on "Government and Surplus Stocks" (Storage and Stability New York: McGraw-Hill Book Company, Inc., 1937).

[2]John H. McCoy, "Grain Storage Policy with Particular Reference to Cost of Storing Wheat in Kansas" (Unpublished Ph.D. dissertation, University of Wisconsin, 1955), p. 70.

[3]Ibid.

stocks from the market.[1]

This viewpoint is substantiated by Brandow who explained that CCC stocks of nonperishable crops have continued to rise and that

> . . . we do not have, nor have we had in the past, a storage program really designed to stabilize agriculture and to provide for national emergencies such as war. Our present storage stocks represent the accumulated difference between products the government has unwillingly acquired in an effort to support prices and those it has been unable to get rid of by subsidy or other means.[2]

The downfall of storage operations in supporting and stabilizing farm income apparently lies in the failure of production controls to limit production to levels consistent with sound agricultural policy. Overproduction continued to aggravate the situation and compelled the government to play an increasingly important role in the acquisition, storage, and disposal of grain. The reaction of the grain trade to further inroads into grain marketing by CCC was inevitable. The "trade's" position parallels the thought expressed in the following passage.

> Also of great concern to the wholesale trade has been the increasing role of government in marketing agricultural products. One of the biggest wholesalers of all is the Commodity Credit Corporation. Over the past decade billions of dollars worth of products have been bought, stored, and sold, directly or indirectly, by this agency as part of the farm aid program. As the CCC buys and sells, it bypasses many private agencies in the wholesale trade. To them this is clearly a loss of business. The services and functions they perform, their role in the price-making process, and of their volume of business are modified as the government expands its influence in the trade.[3]

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[1]Turning the Searchlight on Farm Policy (Chicago: The Farm Foundation, 1952), pp. 36-37.

[2]G. E. Brandow, "Opportunities and Limitations in Farm Income-Support Programs", Problems and Policies of American Agriculture, assembled and published by the Iowa State University Center for Agriculture Adjustment (Ames, Iowa: Iowa State University Press, 1960), p. 438.

[3]Warren H. Vincent (ed.), Economics and Management in Agriculture (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962), pp. 312-13.

Farrington[1], in 1950, discussed some specific effects of CCC operations on terminal markets. He stated the character of terminal elevator operations had changed radically from merchandising to one oriented primarily to storage of grain for CCC. Although he admitted that a higher average rate of occupancy meant greater storage income, he believed this was being offset by increased costs of storage, "particularly with regard to the keeping quality and condition of the grain."[2] He deplored the possibility that an over-supply of facilities at country points brought on by the emphasis on storage might cause terminals to fail to attract sufficient grain to continue operating.

Farrington also noted that invasion of grain marketing by CCC would tend to eliminate brokers and commission firms. He explained their function is taken over by government employees when CCC receives possession of grain at country points. Another concept presented by Farrington was the assumption of speculative risk by taxpayers. He argued that speculative action by the government was not, "as helpful to a merchandising agency as is an open and liquid futures market, for the reason that there are unpredictable government decisions which are hard to hedge against."[3]

Other undesirable effects which Farrington mentioned were the trend away from production and preservation of quality factors in grain and favorableness toward bigness in marketing agencies. He cited the expansion of cooperative regional marketing systems as another possible result of CCC storage operations.

CCC storage operations have had a substantial impact on financing

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[1]C. C. Farrington, "Impact of CCC Operations Upon Marketing Agencies," Journal of Farm Economics, XXXII (November, 1950), pp. 943-54.

[2]Ibid., p. 948. [3]Ibid., p. 950.

grain stocks. This marketing function has probably been influenced more by CCC than any except the storage function itself. Tapp discussed this aspect more fully in the 1954 Yearbook of Agriculture.

> The accumulation of supplies by CCC usually causes the regular marketing agencies to be cautious about their inventories. That in turn may tend to exaggerate the volume of the commodity that is placed under the CCC loan program. Thus the financing that is normally supplied by the regular marketing agencies and their normal sources of credit is shifted to a considerable extent to the Commodity Credit Corporation.[1]

Tapp continued, outlining further implications of CCC financing.

> Since the objective of CCC financing is price support or price maintenance rather than marketing as such, it is only natural that normal marketing and financing agencies will endeavor to shift to the CCC all of the risks involved in financing of this type. There is some evidence to indicate that long-continued activities of this type tend to destroy the normal incentives for marketing agencies and their supplementary sources of financing to perform their normal marketing function. On the other hand, however, the CCC has endeavored to encourage the handling of much of its paper through private facilities and price support is of course not a function of the private banking system.[2]

Finally, a study on effects of Federal grain storage programs indicate that grain storage capacity added after World War II was built largely because of the opportunity to store CCC grain, rather than the prospect of increased merchandising.[3] It noted that construction of storage capacity in terminal markets was increasing faster than grain available for marketing. It was concluded that CCC had a greater impact on country elevators than on terminals in light of the fact that facilities at

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[1]Jesse W. Tapp, "How Marketing is Financed," The Yearbook of Agriculture 1954, U.S. Dept. of Agriculture (Washington: U.S. Government Printing Office, 1954), p. 335.

[2]Ibid.

[3]Geoffrey S. Shepherd, Allen B. Richards, and John W. Wilken, Some Effects of Federal Grain Storage Programs, Purdue University Agricultural Experiment Station Research Bulletin No. 697 (Lafayette, Ind.: 1960), pp. 1-16.

country points had increased faster than in terminal centers. However, a shortage of transportation facilities was undoubtedly a primary cause of this.

In spite of the fact that storage capacity had increased faster at country points, it was felt that terminals would suffer more if some measure were introduced to bring production in line with consumption. This was because country elevators had utilized flat storage buildings to a greater degree. These can be more readily converted to other uses. Terminal facilities, on the other hand, have limited ability to be used for other than grain storage and handling.

CHAPTER II

THE COMMODITY CREDIT CORPORATION: A SUMMARY OF ITS ORGANIZATION, AUTHORITY, AND METHODS OF OPERATION

This chapter provides a brief history of CCC, a review of the purposes for which it was organized, and a discussion of procedures used by CCC in carrying out price support and storage programs.

History and Purpose of CCC

CCC was incorporated on October 17, 1933 under the statutes of the State of Delaware by executive order number 6340. This arrangement made it necessary for its charter to be renewed on an annual basis. It was affiliated with and managed by the Reconstruction Finance Corporation until July 1, 1939 when it became a part of the United States Department of Agriculture. Public Law 806, passed by the 80th Congress in June of 1948, gave approval of the CCC Charter Act which made CCC an agency of the Federal government under permanent Federal charter. This action eliminated the necessity of annually renewing the CCC charter. Important amendments to the Charter Act were made in 1949.[1]

CCC is managed by a board of directors under the guidance of the Secretary of Agriculture. The Secretary is an ex officio member and chairman of the board. The six board members are appointed by the

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[1]Harry W. Henderson, Price Programs, U.S. Dept. of Agriculture Information Bulletin No. 135 (Washington: U.S. Government Printing Office, 1957), p. 58.

President subject to confirmation by the Senate. An advisory board of two members appointed by the President, meets with the Secretary at least every ninety days. This board functions as "watchdog" over the general practices and policies of CCC.[1]

CCC's function in the price support program began in 1933 when it first supported prices of corn and cotton on a permissive basis. Until 1938, only corn, cotton, tobacco, and naval stores were supported on this basis.[2] The Agricultural Adjustment Act of 1938 brought about mandatory supports on certain commodities. This strengthened the position of price supports in the drive for agricultural stabilization. Price supports were utilized as an incentive to increase production during World War II and the Korean War.

The position of CCC in present price support activities is that of a financing agency. Programs are proposed by the Commodity Stabilization Service (CSS) but are carried out under the direction and supervision of the president or executive vice president of CCC. Operations at the state and local level are the responsibility of the Agricultural Stabilization and Conservation committees.[3]

The following statement briefly describes the function of CCC in the price support and storage program:

> The Commodity Credit Corporation Charter Act, as amended, authorizes CCC to: (1) Support prices of agricultural commodities through loans, purchases, payments, and other operations; (2) make available materials and facilities required in the production and marketing of agricultural commodities; (3) procure agricultural commodities for sale to other Government agencies, foreign governments, and domestic, foreign, or international relief or rehabilitation agencies, and to meet domestic requirements; (4) remove and dispose of surplus agricultural commodities; (5) increase domestic consumption of agricultural commodities through development of new markets, marketing facilities,

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[1] Ibid., p. 60. [2] Ibid., p. 55. [3] Ibid., p. 3.

and uses; (6) export or cause to be exported, or aid in the development of foreign markets for agricultural commodities; and (7) carry out such other operations as Congress may specifically authorize or provide for.

CCC is directed to utilize, to the maximum extent practicable, the customary channels, facilities, and arrangements of trade and commerce in carrying on purchasing and selling operations (except sales to other Government agencies), and in conducting warehousing, transporting, processing, and handling operations.

CCC may contract for the use of plants and facilities for the handling, storing, processing, servicing, and transporting of agricultural commodities subject to its control. CCC has authority to acquire personal property and to rent or lease office space necessary for the conduct of its business. It is prohibited from acquiring real property or any interest therein except for the purposes of protecting its financial interests and for providing adequate storage to carry out its programs effectively and efficiently.[1]

The Uniform Grain Storage Agreement

Storage of grains for CCC by elevators and warehouses is administered under terms incorporated in the Uniform Grain Storage Agreement (UGSA). This agreement was adopted in 1940 after much deliberation between CCC officials and representatives of the grain trade. In brief, this document is a contract between CCC and the warehouseman which enumerates the warehouseman's responsibilities in storing grain under loan and after it has been acquired by CCC. The agreement was designed to give the Government uniform protection regardless of where and by whom the grain is stored. It also provides the farmer a broad choice of reliable warehouses. The UGSA has shifted a greater part of the responsibility of caring for the grain to the warehouseman. It also specifies that he re-deliver grain based on quality factors within the grades rather than on a grade basis only.

Probably the most important feature of the UGSA, other than the condition of grain storage, is the provisions for uniform rates of payment

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[1] Ibid., p. 59.

for the various services performed by the warehouse. In the past, rates varied by kind of grain, the manner in which the grain was stored (commingled or identity preserved),[1] and the area in which the storage took place. In 1960, rates for the various grains were standardized for all areas of the country. At present, rates vary by kind of grain and the manner in which it is stored.

Revisions of both the agreement and rates of payment have been negotiated several times since its inception in 1940. Revisions are negotiated at meetings between CCC officials and warehousemen. Tables consisting of storing and handling rates applicable in Kansas on a commingled basis are included in Appendix I. These rates cover the period from the introduction of the UGSA through the 1960 rate revisions.

CCC Policy for Storage of Grain

CCC's master plan for storage of grain was a prominent segment of over-all storage policy during the enlargement of surplus stocks. This program for storage of grain outlined a pattern that was, in general, closely followed in the determination of where and how surplus grains were stored. The program is as follows:

> Commodity Credit Corporation's program for the storage of government-owned grain is to store such grain as near to the point of origin as possible. It is to the advantage of the Corporation to store grain in the areas of production, since the investment in freight is minimized and the grain is stored at locations which will give the greatest possible degree of flexibility to ultimate destinations.
>
> When it becomes necessary to move grain from country position to fulfill program needs or to free space in country elevators to make room for grain at takeover or harvest time, it is moved to terminals either to secure official weights and grades or for storage in transit.
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> It is also CCC's general policy to utilize commercial facilities

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[1] A summary of the specifications of commingled and identity preserved storage and the warehouseman's liability in each case can be found in Appendix III.

prior to placing grain in government-owned bins for storage. At the same time when it becomes necessary to remove grain from its storage position in order to meet program commitments, it is our policy that grain will be shipped from commercial facilities prior to shipping it from CCC-owned bins.[1]

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[1]Obtained in letter from Mr. George B. Reiser, Director, Kansas City ASCS Data Processing Center, Kansas City, Mo., April 8, 1963.

CHAPTER III

MAGNITUDE OF COMMODITY CREDIT CORPORATION GRAIN STORAGE OPERATIONS

Fulfillment of its obligations as a government agency engaged in price support activities, forced CCC to become the foremost storer of agricultural commodities. This has been especially true in the case of surplus grains. By 1959, more than ninety per cent of CCC storage costs were incurred through storage of grain.[1] The magnitude of CCC grain storage operations is evidence, in itself, of the impact on the grain marketing industry.

Grain Stocks and Storage Capacity

Commodity Credit Corporation's unique position as a government-owned corporation laid the foundation for its grain marketing operations. Because it was designed to be a financing and handling agency for agricultural price support programs, CCC had to utilize various marketing functions[2] to discharge its duties efficiently.

Apparently, CCC affected the grain marketing industry to a greater

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[1]U. S., Congress, House, Subcommittee of the Committee on Agriculture, Hearings, Storage Operations of CCC, 86th Cong., 1st Sess., 1959, p. 3.

[2]Marketing experts disagree on just how many specific marketing functions exist. R. L. Kohls, in his widely known text Marketing of Agricultural Products (New York: The Macmillan Company, 1961), pp. 18-21, lists eight marketing functions. These are buying, selling, storage, transportation, standardization, financing, risk-bearing, and market information.

extent through use of the storage function than through use of any other. The primary reason for this was the build-up of surplus grain stocks. In the period following the Korean conflict, government-owned stocks of wheat, corn, and other feed grains[1] rose to previously unknown levels. Data on CCC-owned grain disclosed that on December 31, 1960 stocks of wheat, corn, other feed grains, and soybeans totaled more than three billion bushels[2] (see Table 1). A closer look shows that 2,368 million bushels, or seventy-five per cent of these grains, were stored in commercial warehouses on that date. At the same time, capacity of warehouses approved under the Uniform Grain Storage Agreement stood at 4,468 million bushels (see Table 2). In other words, fifty-three per cent of the capacity of approved commercial warehouses was occupied by CCC-owned grain on December 31, 1960. While this figure is limited in meaning because of an arbitrarily chosen date, it does denote the extent of CCC's impact on commercial storage.

It must be noted that percentage of Uniform Grain Storage Agreement capacity used to store CCC- owned grain varies considerably throughout the year. For example, on April 1 when wheat under loan from the previous year's crop is taken over by CCC, the portion of storage capacity utilized by CCC might be substantially greater than fifty per cent. At other times it may be lower.

It was impossible to determine the precise amount of grain storage capacity built as a direct result of increased grain stocks and various construction incentives. However, a comparison of construction in two different periods is useful. In 1925, Boyle estimated that storage capacity

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[1]Includes oats, barley, grain sorghums, and rye.

[2]Tables showing bushels of each grain by position on December 31 for the years 1953 through 1962 are included in Appendix II.

TABLE 1.--Stocks of CCC-owned grains[a] and soybeans by position[b] in Kansas and the United States on December 31, 1953 through 1962[c]

Year and Location	Commercial Warehouses	Maritime Fleet	CCC Bin Sites	Total
		(Millions of Bushels)		
1953				
Kansas	d	d	d	d
U.S.	d	d	d	813.4
1954				
Kansas	152.5	------	28.5	181.0
U.S.	746.9	72.2	590.2	1,409.3
1955				
Kansas	227.7	------	29.0	256.7
U.S.	1,028.5	88.0	648.7	1,765.3
1956				
Kansas	229.6	------	27.6	256.3
U.S.	1,105.7	77.9	724.4	1,953.1
1957				
Kansas	259.8	------	24.8	284.6
U.S.	1,197.7	38.5	678.3	1,914.6
1958				
Kansas	231.8	------	24.0	255.9
U.S.	1,507.9	52.2	686.7	2,246.8
1959				
Kansas	438.6	------	19.8	458.4
U.S.	2,210.4	32.9	626.4	2,869.6
1960				
Kansas	419.9	------	24.9	444.8
U.S.	2,368.2	37.7	748.5	3,154.4
1961				
Kansas	476.4	------	26.1	503.3
U.S.	2,181.8	35.9	700.8	2,918.4
1962				
Kansas	478.6	------	24.7	503.3
U.S.	1,962.0	36.6	593.1	2,591.7

[a]Includes wheat, corn, oats, grain sorghums, rye, and barley.

[b]Includes stocks sold but not delivered; does not include stocks in transit.

[c]Calculated from: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

[d]Totals by position for Kansas and the United States omitted because information on wheat by position was unavailable.

TABLE 2.--Storage capacity of CCC bin sites and Uniform Grain Storage Agreement warehouses in Kansas and the United States on December 31, 1953 through 1962[a]

Year and Location	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	24,699	202,194	226.863
U.S.	634,847	1,340,893	1,975,740
1954			
Kansas	24,699	293,982[b]	318,651
U.S.	635,325	1,956,034	2,591,359
1955			
Kansas	44,667	350,175[b]	394,842
U.S.	847,087	2,260,773	3,197,860
1956			
Kansas	45,374	408,369	453,743
U.S.	990,417	2,565,510	3,555,927
1957			
Kansas	45,374	462,536	507,910
U.S.	990,650	2,841,243	3,831,893
1958			
Kansas	45,365	595,148	640,513
U.S.	988,811	3,528,255	4,517,066
1959			
Kansas	45,342	747,151	792,493
U.S.	986,728	4,198,178	5,184,906
1960			
Kansas	45,337	770,747	816,084
U.S.	983,551	4,467,797	5,451,348
1961			
Kansas	45,339	827,683	873,022
U.S.	982,034	4,883,137	5,865,171
1962			
Kansas	45,337	833,380	878,717
U.S.	980,341	4,790,878	5,771,219

[a]Calculated from: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

[b]Estimated by mathematical interpolation.

of country elevators, terminal elevators, and mills was 950 million bushels.[1] Licensed commercial storage capacity on August 31, 1950 was 1,125 million bushels (see Table 3), or an increase of slightly more than eighteen per cent in the twenty-five year period. Between 1950 and 1962, storage capacity increased by 326 per cent (see Table 4) to a total of 4,791 million bushels.

It appears that part of this huge increase was due to the need for additional facilities to handle grain from a more mechanized and faster harvest. Expanded grain production may have also affected the situation.[2] It is doubtful, however, if the two factors mentioned above had more than a minor effect on storage construction.

Analysis of grain carryover[3] confirmed the apparent impact of CCC activities on grain marketing. Table 5 reveals CCC owned at least fifty per cent of wheat carryover in every year but one since 1949. A high was reached in 1958 when 94.8 per cent of wheat carryover was owned by CCC. CCC had at least sixty per cent of carryover corn in its possession during the 1955-61 period (see Table 6). Ownership of such a large part of carryover stocks by a government agency has certain economic implications with respect to the risk-bearing and financing functions of the marketing process.

To begin with, there is considerable risk associated with storage of

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[1]James E. Boyle, Marketing of Agricultural Products (New York: McGraw-Hill Book Co., 1925), p. 135.

[2]Most estimates of increased grain production since 1925 fall in the thirty-five to forty-five per cent range.

[3]The term "carryover" refers to those stocks of grain remaining from the previous year's supply on carryover date. It does not include new crop grain or grain imported for processing and reshipment. July 1 is the accepted carryover date for wheat. For corn, it is October 1.

TABLE 3.--Capacity of warehouses approved under the Uniform Grain Storage Agreement on select dates since August 31, 1950 by Commodity Credit Corporation region and U.S. total[a]

Date	Dallas	Evanston	Kansas City	Minneapolis	Portland	Total
			(Millions of Bushels)			
Aug. 31, 1950	232.4	211.7	306.9	218.5	155.0	1,124.6
Aug. 20, 1952	252.4	219.9	335.2	260.4	172.3	1,240.3
Dec. 1, 1954	420.6	329.8	508.1	332.1	243.6	1,834.1
Dec. 31, 1956	533.3	515.7	742.5	405.7	287.6	2,484.7
Dec. 31, 1958	813.1	744.3	1,083.2	488.7	358.9	3,488.2
Dec. 31, 1960	1,093.7	933.4	1,423.9	578.0	404.7	4,433.7
Dec. 31, 1961	1,309.3	1,000.0	1,554.7	592.6	399.8	4,856.4
Dec. 31, 1962	1,300.8	980.6	1,557.1	593.6	358.8	4,790.9

[a]Calculated from: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 4.--Per cent increase of capacity of warehouses approved under the Uniform Grain Storage Agreement on select dates since August 31, 1950 by Commodity Credit Corporation region and U.S. total[a]

Date	Dallas	Evanston	Kansas City	Minneapolis	Portland	Total
Aug. 31, 1950	---	---	---	---	---	---
Aug. 20, 1952	8	3	9	19	11	10
Dec. 1, 1954	81	55	65	52	57	63
Dec. 31, 1956	129	143	142	85	85	121
Dec. 31, 1958	250	252	253	124	131	210
Dec. 31, 1960	371	341	364	165	161	294
Dec. 31, 1961	463	372	407	171	158	332
Dec. 31, 1962	460	363	407	172	131	326

[a]Calculated from: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 5.--Wheat carryover by position on July 1, CCC inventories, and CCC inventories as a per cent of carryover, 1945-61[a]

Year	Position					Total Carry-over	Total CCC Stocks	Per Cent CCC
	Farm	Interior Mill, Elevator, and Warehouse	Terminal Market	Merchant Mill	CCC[b]			
	(Millions of Bushels)							
1945	87.7	42.1	67.2	58.5	23.7	279.2	103.7	37.1
1946	41.6	8.4	29.9	12.8	7.4	100.1	29.0	29.0
1947	40.5	10.1	8.1	24.6	.5	83.8	18.6	22.2
1948	94.5	30.6	34.1	34.2	2.5	195.9	32.9	16.8
1949	66.5	76.4	128.2	32.4	3.8	307.3	232.3	75.6
1950	65.9	129.5	168.5	55.9	4.9	424.7	327.7	77.2
1951	76.3	89.2	157.8	73.6	3.0	399.9	196.5	49.1
1952	63.4	58.0	93.9	39.6	1.1	256.0	143.3	56.0
1953	79.2	203.3	256.3	58.4	8.4	605.6	470.0	77.6
1954	103.2	345.1	310.7	63.8	110.7	933.5	774.6	83.0
1955	40.6	412.4	380.4	60.1	142.6	1,036.1	975.9	94.2
1956	67.4	443.7	332.3	64.7	125.4	1,033.5	930.7	90.1
1957	59.9	379.4	313.5	65.0	91.0	908.8	825.9	90.9
1958	51.2	447.1	304.8	c	78.3	881.4	835.8	94.8
1959	114.9	695.2	403.8	c	81.1	1,295.0	1,146.6	88.5
1960	95.9	742.2	412.0	c	63.5	1,313.6	1,195.4	91.0
1961[d]	136.9	1,204.7	c	c	70.6	1,412.2	1,242.5	88.0

[a]Calculated from: U.S. Dept. of Agriculture, Commodity Credit Corporation, Charts (Washington: U.S. Government Printing Office), Nov., 1956 and March 1963; and U.S. Dept. of Agriculture, Agricultural Statistics 1962 (Washington: U.S. Government Printing Office), table 10, p. 13.

[b]Owned by Commodity Credit Corporation and stored in bins or other storage owned or controlled by CCC; also in transit to ports and in Canadian elevators. Other Commodity Credit Corporation owned wheat included in estimates by position.

[c]Included in Interior Mill, Elevator, and Warehouse.

[d]Preliminary.

TABLE 6.--Corn Carryover by position on October 1, CCC inventories, and CCC inventories as a per cent of carryover, 1945-61[a]

Year	Position				Total Carryover	Total CCC Stocks	Per Cent CCC
	Farm	Terminal Market	Interior Mill, Elevator, and Warehouse	CCC[b]			
	(Millions of Bushels)						
1945	293.4	4.7	17.2	c	315.3	19.8	6.3
1946	151.9	4.9	15.0	---	171.8	5.6	3.3
1947	251.8	7.9	23.5	---	283.2	.2	d
1948	112.1	1.5	9.8	---	123.4	---	---
1949	696.1	9.6	39.6	67.6	812.9	11.9	1.5
1950	470.1	40.1	80.9	253.3	844.4	334.6	39.6
1951	313.1	32.8	78.7	314.9	739.5	402.8	54.5
1952	172.0	18.2	52.4	244.6	487.2	290.7	59.7
1953	330.0	9.4	45.4	384.4	769.2	236.0	30.7
1954	359.4	18.1	74.4	467.8	919.7	352.7	38.3
1955	313.8	31.9	129.4	559.7	1,034.8	621.5	60.1
1956	299.3	64.1	201.5	599.8	1,164.7	748.5	64.3
1957	418.9	115.9	311.4	572.8	1,419.0	873.3	61.5
1958	343.0	85.1	429.6	611.6	1,469.3	1,077.1	73.3
1959	325.0	98.2	536.1	564.8	1,524.1	1,184.2	77.7
1960	452.0	e	736.0	599.0	1,787.0	1,312.8	73.5
1961	580.0	e	812.9	615.4	2,008.3	1,371.0	68.3

[a]Calculated from: U.S. Dept. of Agriculture, Commodity Credit Corporation, Charts (Washington: U.S. Government Printing Office), Nov., 1956 and March, 1963; and U.S. Dept. of Agriculture, Agricultural Statistics 1962 (Washington: U.S. Government Printing Office), table 47, p. 42.

[b]Owned by Commodity Credit Corporation and stored in bins owned or controlled by CCC.

[c]Less than 100,000 bushels.

[d]Less than one-tenth of one per cent.

[e]Terminal Market and Interior Mill, Elevator, and Warehouse combined, Oct. 1, 1960.

perishable commodities.[1] Under a market organization unaffected by government intervention, risk is borne by individuals and firms engaged in the marketing process. Insurance against risk and losses suffered are definite marketing costs.

Of equal importance is the financing function. Capital must be tied up in any operation in which a time lag exists between first sale of the commodity and its delivery to the final consumer. This is particularly important when a commodity is stored for lengthy periods. Interest on capital tied up in storage operations represents a major marketing cost. It is obvious that ownership of a major portion of grain reserves by CCC relieved grain firms of a substantial amount of the risk-bearing and financing functions connected with carrying stocks of grain. This, in turn, made capital available for expansion of storage facilities.

Storage Payments

Total cost of storing and handling surplus agricultural commodities in fiscal years 1951 through 1962 was nearly four billion dollars.[2] Approximately eighty per cent of this sum went to commercial grain storage firms. Storage and handling costs of CCC from 1951 through 1959 are summarized in Table 7.

Payments made by CCC for grain storage were distributed among a

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[1]Risk is generally divided into two broad classifications--physical risk and market risk. Physical risk implies loss through destruction or deterioration of the commodity as it moves through market channels. Market risks are such phenomenon as unfavorable price changes or adverse changes in consumer preference.

[2]Estimated from: Commodity Credit Corporation, Charts, Nov., 1961 and March 1963, tables 3 and 5A respectively. This estimate includes reseal loan storage expenses and other minor expenses which are now carried as current operating expenses by CCC.

TABLE 7.--Storage costs incurred by Commodity Credit Corporation for wheat, corn, and other feed grains[a] by type of storage and total storage cost incurred by CCC for all commodities in fiscal years 1951 through 1959[b]

Commodity and Type of Storage	1951	1952	1953	1954	1955	1956	1957	1958	1959
	(Thousands of Dollars)								
Wheat									
Bin	293	105	645	1,978	4,415	2,766	3,052	2,508	2,556
Fleet	---	---	162	4,140	9,350	11,274	9,996	5,308	6,314
Commercial	50,432	32,439	79,730	135,601	170,986	171,301	149,361	149,361	196,125
Corn									
Bin	15,903	16,723	13,800	28,941	31,614	29,373	40,936	42,098	35,513
Fleet	---	---	---	---	---	---	---	---	---
Commercial	14,674	11,574	5,784	15,343	22,011	42,159	75,724	97,880	98,028
Other Feed Grains									
Bin	688	125	85	198	2,087	1,222	804	987	2,001
Fleet	---	---	---	---	---	---	---	---	---
Commercial	13,966	4,890	2,112	14,861	41,728	50,653	40,947	78,907	114,663
Total	95,936	65,856	102,318	201,062	282,191	308,668	320,821	377,187	455,200
Total All Commodities	116,957	73,257	120,055	236,856	332,930	374,087	364,391	409,058	481,159

[a]Includes barley, grain sorghum, oats, rye, and soybeans.

[b]Calculated from: U.S. Dept. of Agriculture, Commodity Credit Corporation, Storage Costs Incurred for Commodities Acquired Under the Price-Support Programs (CSS Financial Analysis Branch), report of May 11, 1960.

large number of firms. Testimony before a special investigating subcommittee of the United States Senate Committee on Agriculture and Forestry established that approximately 11,000 commercial warehousemen shared in storing and handling grain for CCC.[1] Warehouses were located in all parts of the country, but were concentrated in the Corn Belt and Great Plains regions.

Individual storage and handling payments in excess of $500,000 proved to be an indicator of the concentration in ownership of grain storage facilities. Table 8 shows that storage and handling payments of $500,000 or more were 31.7 per cent to 42.6 per cent of total CCC storage costs from 1958 through 1962. The significant fact was that no more than seventy-four firms, or less than one per cent of all firms storing grain for CCC, received more than $500,000 in a single year. Table 9 provides a breakdown of storage and handling payments in excess of $500,000.

Special Incentives to Facilitate Construction

Grain surpluses acquired under price support programs outgrew facilities available to store them soon after World War II. Because of this, CCC offered special incentives to facilitate and encourage construction of additional storage space. These incentives were partial occupancy guarantees designed to induce storage construction by reducing the uncertainty of maintaining a large enough storage inventory to pay for the facility. To accomplish this, CCC compensated the elevator operator for storage space unused when the newly constructed facility was not filled

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[1]U. S., Congress, Senate, Special Investigating Subcommittee of the Committee on Agriculture and Forestry, Report, Grain Storage Operations of the Commodity Credit Corporation, 86th Cong., 2nd Sess., 1960, p. 3.

TABLE 8.--Sum of storage and handling payments in excess of $500,000, total Commodity Credit Corporation storage and handling costs, and sum of payments in excess of $500,000 as a per cent of total CCC storage and handling costs, 1958-62[a]

Year	Sum of Payments in Excess of $500,000	Total CCC Storage and Handling Payments[b]	$500,000 Payments as a Percentage of Total CCC Storage and Handling Costs
1958[c]	$119,368,024	$327,400,000	36.4
1959[c]	158,149,077	371,200,000	42.6
1960[c]	150,861,501	476,100,000	31.7
1961[c]	148,159,534	426,800,000	34.7
1962[c]	120,421,891	393,200,000	30.6

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation; and U.S. Dept. of Agriculture, Commodity Credit Corporation, Charts (Washington: U.S. Government Printing Office), June 30, 1962.

[b]After 1962 re-evaluation of CCC's accounting system, total storage cost was adjusted to exclude reseal loan storage expense. This is now considered a current operating expense.

[c]Indicates fiscal year.

TABLE 9.--Number of storage and handling payments in excess of $500,000, distribution of $500,000 payments, and average size of payments in excess of $500,000, 1958-62[a]

Year	Number of Payments by Size of Payment					Total	Average Payment
	$0.5 mil. to $1.5 mil.	$1.0 mil. to $1.5 mil.	$1.5 mil to $2.0 mil.	$2.0 mil. to $5.0 mil.	Over $5.0 mil.		
1958	24	12	10	8	6	60	$1,989,467
1959	29	14	7	18	6	74	2,137,150
1960	23	12	11	15	5	66	2,285,780
1961	34	11	8	17	4	74	2,002,156
1962	30	10	6	15	2	63	1,911,459

[a]Calculated from: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

to the level specified in the occupancy contract.

The first occupancy contracts were offered in 1949 and were followed by similar programs in 1950 and 1951.[1] These contracts guaranteed occupancy at seventy-five per cent of capacity for three years on new storage facilities and for two years on additions to elevators.[2] These efforts accounted for the construction of about eighty million bushels of storage space.[3]

Another type of occupancy contract was offered in August and September of 1953. The offer was opened again in May of 1954 and closed in August of that year. This contract gave the warehouseman a choice of three plans.[4] Under plan I, CCC would underwrite up to seventy-five per cent occupancy for three years and forty per cent occupancy for an additional two years. Plan II offered up to sixty per cent occupancy for five years and plan III guaranteed six years at fifty per cent. The 1953-54 plan increased storage capacity by approximately 180 million bushels.[5]

Although not directly connected with CCC, a provision of 1954 amendments to the 1939 Internal Revenue code was designed specifically to expand grain storage capacity.[6] Essentially, this provision enabled the

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[1]Henderson, p. 20.

[2]Gary Francis Sullivan, "The Impact of Government Storage Policy on the Size and Location of Commercial Storage Facilities in Kansas " (unpublished Master's report, Department of Agricultural Economics, Kansas State University, 1961), p. 43.

[3]Henderson, p. 20.

[4]U. S., Congress, House, Committee on Agriculture, Hearings, Storage Operations of CCC, 86th Cong., 1st Sess., 1959, p. 9.

[5]Henderson, p. 20.

[6]U. S., Statutes at Large, LXVIII A, Sections 168 and 169, 52-57.

warehouseman to construct or remodel facilities for grain storage and depreciate them out over a five year period. This act covered facilities completed after December 31, 1952 and prior to January 1, 1957.

CHAPTER IV

CHANGES IN KANSAS TERMINAL ELEVATORS

Changes in storage capacity, number, and location of terminal elevators in Kansas between 1945 and 1963 are summarized in Chapter IV. Development of grain storage facilities at the major terminal and subterminal centers is emphasized. A short discussion of storage facilities at wholesale processing plants is included because certain of these facilities were operated as terminals to some extent.

Growth of Storage Capacity, 1945-63

A tremendous expansion of grain storage capacity in Kansas took place after World War II. Elevators and warehouses in the state constructed nearly 720 millions of bushels of storage space during the postwar period. In other words, commercial storage capacity in Kansas increased by more than four times in the eighteen-year interval between 1945 and 1963. Although the largest share of this construction was at country elevators,[1] construction of new facilities at terminal and subterminal or "secondary"[2] elevators was momentous in its own right.

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[1]Sullivan, p. 49. Sullivan calculated that fifty-three per cent of the increase in Kansas commercial storage space between 1945 and 1959 was due to construction at country elevators, forty-one per cent was due to construction at terminal elevators, and four per cent due to warehouses constructed at flour mills.

[2]The term "secondary" is rather indefinite as to what it includes. Most authorities classify an elevator on the basis of origination of the grain handled by the elevator. Thus, an elevator which received the major

As an aid in demonstrating the development of storage space at secondary elevators and warehouses, a population of firms known to be operating as terminal or sub-terminal elevators was selected from the 1945 Kansas Official Directory.[1] Warehouse capacities listed in the Directory were also used. Directories for 1950, 1955, 1960, and 1963 were utilized to portray the growth of the original population and to add new facilities. Capacity of the terminals and sub-terminals was compiled by crop reporting district for the several years and appears in Table 10.[2]

A close look at Table 10 discloses that storage capacity of terminal elevators increased by almost 300 million bushels from 1945 until 1963. This amount represents almost forty-one per cent of the increase in commercial storage capacity in Kansas during that eighteen-year period. Growth of storage capacity was most rapid in two five-year periods, 1951-55 and 1956-60. Storage capacity more than doubled in each of the two intervals. The largest increase occurred between 1955 and 1960, and totaled 180.4 million bushels. Construction by ten firms at six major terminal and sub-terminal markets accounted for 141 million bushels of the 1955-60 increase. This indicates that storage capacity of terminal

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part of its grain direct from the farmer is a primary elevator, or as it is more commonly called, a country or local elevator. A secondary elevator is one which receives the bulk of its grain from other elevators and warehouses. Terminals, sub-terminals, and port elevators generally comprise this classification.

[1] Kansas Official Directory (Hutchinson, Kans.: Kansas Grain and Feed Dealers Association).

[2] Table 10 is intended only as an approximation of the actual capacity of terminal and sub-terminal elevators in the several crop reporting districts. This is due in part to the difficulty of the Association in obtaining accurate information from all grain firms in Kansas. In addition, certain warehouses may have been unintentionally omitted when the data was compiled.

TABLE 10.--Storage capacity of terminal and sub-terminal elevators in Kansas by crop reporting district, 1945-63[a]

Crop Reporting District	1945	1950	1955	1960	1963
	(Thousands of Bushels)				
2	----	----	----	2,900	3,500
3	24,950	24,958	35,150	66,055	79,046
5	1,000	1,000	13,025	54,876	57,183
6	2,225	2,350	14,450	59,390	72,368
7	500	500	2,850	2,850	2,850
8	22,318	29,983	62,245	119,000	124,755
9	----	----	----	3,024	3,024
Totals	50,993	58,791	127,720	308,095	343,776

[a]Calculated from: Kansas Official Directory (Hutchinson, Kans.: Kansas Grain and Feed Dealers Association), 1945, 1950, 1955, 1960, and 1963 issues.

elevators became concentrated in a few extremely large facilities despite the building of numerous new facilities.

Development of storage facilities at the six major terminal and sub-terminal markets exhibited a trend to decentralization in the 1945-63 period. Table 11 summarizes growth of terminal elevators at Atchison, Hutchinson, Kansas City, Salina, Topeka, and Wichita. Storage capacity increased considerably more at the interior terminals than at Kansas City.[1] Several elevators which functioned as sub-terminals were constructed at interior cities other than the major ones. Capacity at the six major terminal centers accounted for approximately ninety-three per cent of terminal and sub-terminal storage capacity in Kansas on January 1, 1963.

Number of Terminal Elevators, 1945-63

The change in number of terminal and sub-terminal elevators between 1945 and 1963 was as profound as the tremendous increase in storage capacity. Twenty-four terminal and sub-terminal elevators were selected from the 1945 Directory. By 1963, fifty-five elevators were selected, an increase of thirty-one over 1945. Twenty-five of the thirty-one were either built since 1945 or were country elevators whose operations altered enough to be classified as sub-terminals. About seventy-five per cent of the increase in terminal storage capacity was the result of facilities built after 1945. Warehouses at six processing plants that discontinued processing were converted to terminal elevator operations between 1945 and 1963.

Wholesale Processing Plants

In some instances, warehouses at processing plants were utilized

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[1]It must be noted that storage capacity listed for Kansas City includes only facilities located in the Kansas City, Kansas area.

TABLE 11.--Storage capacity of terminal and sub-terminal elevators at the six major terminal and sub-terminal markets in Kansas, 1945-63[a]

Market	1945	1950	1955	1960	1963
			(Thousands of Bushels)		
Atchison	----	----	4,920	13,300	24,400
Hutchinson	14,060	18,475	31,145	43,950	49,480
Kansas City	24,950	24,958	32,650	51,455	53,146
Salina	1,000	1,000	11,900	49,797	50,220
Topeka	2,225	2,350	14,450	59,390	70,768
Wichita	7,750	11,000	29,750	71,500	71,500
Totals	49,985	57,783	124,815	289,392	314,514

[a]Calculated from: Kansas Official Directory (Hutchinson, Kans.: Kansas Grain and Feed Dealers Association), 1945, 1950, 1955, 1960, and 1963 issues.

partially as terminal elevators. This was especially true in the case of the larger flour mills. Most wholesale processing plants surveyed in 1954 and 1961 (see pp. 5-11) indicated they stored grain for other than their own inventory. A few were actually terminal elevator-flour mill combinations. In order to more accurately state terminal elevator capacity, the larger mills were also selected from the Directories. Capacities of these facilities are shown by crop reporting district in Table 12.

While numbers of terminal elevators increased after 1945, numbers of processing plants declined. A total of forty-nine wholesale processing plants were listed in 1945. Only forty-one remained by 1963. Six of these were converted to terminals (see above) and two others became country elevators. The trend to fewer wholesale processing plants, especially flour mills, is likely to continue due to the replacement of the old, inefficient plants with modern processing facilities. Storage facilities at many of the old plants will be converted to terminal or sub-terminal operations.

TABLE 12.--Capacity of warehouses at wholesale processing plants by crop reporting district in Kansas, 1945-63[a]

Crop Reporting District	1945	1950	1955	1960	1963
	(Thousands of Bushels)				
2	----	----	----	----	----
3	2,765	2,980	2,940	4,825	4,580
5	7,554	8,293	10,065	9,623	9,335
6	750	860	2,315	2,788	3,020
7	260	660	640	2,340	2,420
8	16,883	16,730	24,676	26,757	27,656
9	3,545	3,318	4,848	6,863	7,235
Totals	31,757	32,831	45,484	53,196	53,196

[a]Calculated from: Kansas Official Directory (Hutchinson, Kans.: Kansas Grain and Feed Dealers Association), 1945, 1950, 1955, 1960, and 1963 issues.

CHAPTER V

ANALYSIS OF SURVEY DATA

Analysis of data compiled from 1954 and 1961 surveys of terminal elevators and wholesale processors provided several meaningful comparisons that indicated possible CCC influence on grain marketing and storage capacity of Kansas terminal elevators. Chapter V is devoted to presentation of this material.

Results of the Survey

As stated in Chapter I, seventy-seven of eighty-four 1954 and ninety-three of approximately one-hundred 1961 survey schedules of terminal elevators and wholesale processors were completed adequately enough to be of use in this study. The seventy-seven 1954 schedules represented warehouse facilities capable of storing 121.9 million bushels of grain. The average storage inventory of this facilities during the 1953-54 grain marketing year proved to be 97.6 million bushels or 80.1 per cent of capacity.

Capacity of the ninety-three facilities surveyed in 1961 was 359.2 million bushels. Average storage inventory in 1960 was approximately 309 million bushels or 86.0 per cent of capacity. Capacity and average storage inventory of facilities surveyed are shown in Table 13.

Terminal and Sub-terminal Elevators

Warehouse facilities operated primarily as terminal and sub-terminal

TABLE 13.--Number of firms, storage capacity, average storage inventory, per cent fill, bushels merchandised, and bushels processed by firms surveyed in 1954 and 1961[a]

	1953	1960
Number of Firms	77	93
Storage Capacity (Bus.)	121,937,000	359,178,000
Average Inventory (Bus.)	97,621,000	308,983,000
Per Cent Fill (%)	80.1	86.0
Bushels Merchandised	54,138,000	134,179,000
Bushels Processed	82,739,000	94,506,000

[a]Calculated from: 1954 and 1961 surveys of Kansas terminal elevators and wholesale processors.

elevators accounted for thirty-one of the useable 1954 schedules. 1953 storage capacity of the thirty-one facilities was slightly more than eighty-five million bushels. By 1960, these same warehouses had more than doubled in size and had storage capacity of 203.3 million bushels. In 1953, the thirty-one warehouses had an average storage inventory of 69.8 million bushels, or 82.1 per cent of capacity. Average inventory in 1960 was 88.7 per cent of capacity or 278.1 million bushels. Continued growth of CCC-owned surpluses apparently made it possible to maintain a high average storage inventory despite the construction of a record amount of new storage facilities. By the same token, the maintenance of a high average inventory undoubtedly made construction of additional facilities highly profitable.

A considerable portion of the increase in terminal elevator storage capacity shown by the 1954 and 1961 surveys was due to elevators constructed after 1953. Firms who switched from country elevator to terminal

elevator operations according to the definitions of the surveys, were also important. New terminal elevators of both types accounted for 111.5 million bushels of the total capacity increase. These facilities were 87.6 per cent filled during 1960. Capacity, average storage inventory, per cent fill, and merchandising volume of terminals in the 1954 and 1961 surveys are listed in Table 14.

Several differences worthy of note were disclosed by the two surveys. It is impossible, however, to conclude that such differences actually represented trends because only two years operations were examined. A case in point is merchandising volume. Although the number of bushels of grain merchandised by the firms surveyed in 1961 was more than twice as much as the volume reported in 1954 (see Table 14), this is not proof that grain available for merchandising is on an upward trend.

One of the more prominent changes concerned the volume of grain merchandised by regional grain cooperatives. In 1953, four cooperative terminals merchandised 13.6 per cent of all grain merchandised by the thirty-one terminal and sub-terminal elevators surveyed. Calculations made on 1960 data revealed that five cooperatives merchandised 44.9 per cent of the merchandising volume of the fifty-five terminals. There is some indication that increased merchandising through cooperatives was influenced by CCC operations. Whether the activities of CCC were actually more favorable to cooperatives than to private grain firms, is a question that has been raised many times in the past. It is possible that the cooperatives were quicker to take advantage of the situation that existed during the period of high price supports and huge storage payments. In any event, there is not sufficient evidence to conclude definitely that the activities of CCC were more favorable to cooperatives.

TABLE 14.--Storage capacity, average storage inventory, per cent fill, and merchandising volume of terminal and sub-terminal elevators in Kansas by crop reporting district, 1953 and 1960[a]

Crop Reporting District	1953				1960			
	Capacity	Average Inventory	Per Cent Fill	Bushels Merchandised	Capacity	Average Inventory	Per Cent Fill	Bushels Merchandised
	(1,000 Bushels)		(%)	(1,000 Bushels)	(1,000 Bushels)		(%)	(1,000 Bushels)
2	----	----	--	----	3,300	3,165	95.9	100
3	19,750	16,170	81.9	19,398	61,301	50,603	93.0	26,630
5	35,000	33,000	94.3	1,850	52,671	47,470	90.1	12,976
6	9,050	8,300	91.7	1,765	61,289	53,826	87.8	5,617
7	1,000	450	45.0	3,600	2,905	2,450	84.3	3,466
8	50,825	40,880	80.4	22,465	127,204	114,862	80.3	80,408
9	900	725	80.6	----	6,150	5,675	92.3	2,650
Totals	85,025	69,825	82.1	49,078	314,820	278,051	88.3	131,847

[a]Calculated from: 1954 and 1961 surveys of Kansas terminal elevators and wholesale processors.

Table 15 compares operations of cooperative and non-cooperative terminals and sub-terminals for 1953 and 1960.

TABLE 15.--Comparison of cooperative and non-cooperative operations, 1953 and 1960. (Capacity, average inventory, and bushels merchandised in thousands of bushels.)[a]

	1953	1960
Capacity		
Cooperatives	23,860	56,110
Non-cooperatives	61,175	258,710
Average Inventory		
Cooperatives	15,500	50,630
Non-cooperatives	54,325	227,421
Per Cent Fill		
Cooperatives	65.0%	90.5%
Non-cooperatives	88.8%	87.9%
Bushels Merchandised		
Cooperatives	6,700	59,276
Non-cooperatives	42,378	72,571

[a]Calculated from: 1954 and 1961 surveys of Kansas terminal elevators and wholesale processors.

The surveys of 1954 and 1961 revealed another marked change in the operations of terminal and sub-terminal elevators. This change was concerned with the number of terminals storing for or receiving grain directly from farmers. Seventeen of thirty-one 1953 terminal operators noted they stored grain for farmers. By 1960, only four of fifty-five terminals stored for farmers. Apparently, the abundance of CCC grain enabled terminals to become more clearly defined in their operations.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Generally speaking, the purpose of this study was to examine CCC price support and storage operations in order to determine in what way these operations affected the various aspects of grain marketing in a period from 1945 to 1963. Government price support activities were at their peak during this period. This study had particular reference to effects on Kansas terminal elevators and their operation.

The paper began with an introduction of the problem and the objectives of the study. The first major task undertaken was a description of the Commodity Credit Corporation, its purpose, and the authority under which it works. This was followed by a discussion of the size and scope of CCC storage payments, and special programs to encourage the building of grain storage facilities.

The next segment of the paper related the changes in size, number, and location of terminal elevator facilities in Kansas and some implications of these changes. Finally, results of surveys of terminal elevators in Kansas were presented. Several conclusions were made from the material presented in this paper.

(1) The first conclusion is that grain acquired under the price support programs and the resulting CCC grain storage activities were primarily responsible for the huge increase in grain storage facilities.

(2) It appears that CCC's policy of storing grain as near to the

point of production as possible was largely responsible for the increased amount of grain storage built in Kansas and surrounding areas. This region produced and stored much of the surplus hard winter wheat during the period covered in the study. It must be noted, that other factors such as freight rates may have affected this situation.

(3) It was also concluded that CCC's assumption of the financing and risk-bearing functions associated with holding grain stocks, materially encouraged the building of storage facilities. Assumption of the financing and risk-bearing functions by CCC made capital available for storage construction.

(4) Finally, it was concluded that the huge expansion of grain storage capacity of country and terminal elevators in Kansas has serious implications if this nation's future agricultural and trade policy is successful in equating supply and demand for wheat and feed grains. Assuming country elevators can effectively carry on limited merchandising operations in this day of modern communications, there will be little reason for substantial quantities of grain to move through Kansas terminals due to the large amount of storage space at the country points.

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APPENDIX I

RATES FOR STORING AND HANDLING GRAIN ON A COMMINGLED BASIS UNDER THE UNIFORM GRAIN STORAGE AGREEMENT

TABLE 16.--Schedule of rates for storing and handling wheat, rye, and soybeans on a commingled basis in Kansas warehouses under the Uniform Grain Storage Agreement[a]

Year	Received by Truck					Received by Rail or Water				
	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings
	(Cents Per Bushel)									
1940	3.00	.50	8.250	---	11.750	.50	.500	7.250	---	8.250
1942	3.00	.50	9.250	---	12.750	.50	.500	8.250	---	9.250
1946	5.00	.50	10.500	---	16.000	1.00	.500	9.000	---	10.500
1948	6.66	.66	11.666	---	18.986	1.25	.625	11.250	---	13.125
1949	6.50	.50	10.750	---	17.750	1.50	.750	10.750	---	13.000
1952	6.50	.50	14.333	---	21.333	1.50	.750	14.666	---	16.916
1954	6.50	.50	15.333	3.250	25.583	1.50	.750	15.666	---	18.416
1956	6.25	.75	16.790	---	23.790	1.50	.750	16.790	---	19.040
1960	5.00	.75	13.505	---	19.255	1.75	.750	13.505	---	16.005

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 17.--Schedule of rates for storing and handling corn on a commingled basis in Kansas warehouses under the Uniform Grain Storage Agreement[a]

Year	Received by Truck				Received by Rail or Water				
	(Cents Per Bushel)								
1940	2.00	.50	7.500	---	10.000	.50	.500	7.500	---	8.500
1942	2.00	.50	8.125	---	10.625	.50	.500	8.125	---	9.125
1946	2.75	.50	8.500	---	11.750	1.00	.500	8.500	---	10.000
1948	3.66	.50	9.000	---	13.160	1.25	.625	10.625	---	12.500
1949	4.00	.50	10.000	---	14.500	1.50	.750	10.000	---	12.250
1952	4.00	.50	12.625	---	17.125	1.50	.750	12.875	---	15.125
1954	4.00	.50	15.333	2.000	21.833	1.50	.750	15.666	1.500	19.416
1956	3.75	.75	16.425	---	20.925	1.50	.750	16.425	---	18.675
1960	4.25	.75	13.505	---	18.505	1.75	.750	13.505	---	16.005

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 18.--Schedule of rates for storing and handling grain sorghums on a commingled basis in Kansas warehouses under the Uniform Grain Storage Agreement[a]

Year	Received by Truck					Received by Rail or Water				
	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings
	(Cents Per Bushel)									
1942	3.00	.50	9.250	---	12.750	.50	.50	8.250	---	9.250
1946	5.04	.56	7.560	---	13.160	1.12	.56	7.560	---	9.240
1948	6.71	.75	8.400	---	15.860	1.40	.70	9.450	---	11.550
1949	6.50	.50	10.750	---	17.750	1.50	.75	10.750	---	13.000
1952	6.50	.50	14.333	---	21.333	1.50	.75	14.666	---	16.916
1954	6.50	.50	15.333	3.250	25.583	1.50	.75	15.666	1.500	19.416
1956	6.25	.75	13.505	---	23.790	1.50	.75	16.790	---	19.040
1960	5.00	.75	13.505	---	19.255	1.75	.75	13.505	---	16.005

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 19.--Schedule of rates for storing and handling barley on a commingled basis in Kansas warehouses under the Uniform Grain Storage Agreement[a]

Year	Received by Truck					Received by Rail or Water				
	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings
	(Cents Per Bushel)									
1940	3.000	.500	8.250	---	11.750	.50	.500	7.250	---	8.250
1942	3.000	.500	9.250	---	12.750	.50	.500	8.250	---	9.250
1946	5.000	.500	10.500	---	16.000	1.00	.500	9.000	---	10.500
1948	6.666	.666	11.666	---	18.998	1.25	.625	11.250	---	13.125
1949	5.000	.500	10.000	---	15.500	1.50	.750	10.000	---	12.250
1952	5.000	.500	12.625	---	18.125	1.50	.750	12.875	---	15.125
1954	5.000	.500	15.333	2.500	23.333	1.50	.750	15.666	1.500	19.416
1956	4.75	.750	16.425	---	21.925	1.50	.750	16.425	---	18.675
1960	4.25	.750	13.505	---	18.505	1.75	.750	13.505	---	16.005

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

TABLE 20.--Schedule of rates for storing and handling oats on a commingled basis in Kansas warehouses under the Uniform Grain Storage Agreement[a]

Year	Received by Truck					Received by Rail or Water				
	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings	Receiving	Loading Out	Annual Storage	Service Charge	Possible Annual Earnings
	(Cents Per Bushel)									
1942	2.00	.500	8.125	---	10.625	.50	.500	8.125	---	9.125
1946	2.75	.500	8.500	---	11.750	1.00	.500	8.500	---	10.000
1948	3.66	.666	9.000	---	13.326	1.25	.625	10.625	---	12.500
1949	3.00	.500	8.000	---	11.500	1.50	.750	8.000	---	10.250
1952	3.00	.500	10.375	---	13.875	1.50	.750	10.625	---	12.875
1954	3.00	.500	10.875	1.500	15.875	1.50	.750	11.125	1.500	14.875
1956	2.75	.750	11.680	---	15.180	1.50	.750	11.680	---	13.930
1960	2.75	.750	10.220	---	13.720	1.75	.750	10.220	---	12.720

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation.

APPENDIX II

STOCKS OF CCC-OWNED GRAINS BY POSITION ON
DECEMBER 31, 1953 THROUGH 1962

TABLE 21.--Stocks of CCC-owned wheat by position in Kansas and the United States on December 31, 1953 through 1963[a]

Year	CCC Bin Sites	Commercial Warehouses	Maritime Fleet	Total
		(Millions of Bushels)		
1953				
Kansas	b	b	b	b
U.S.	b	b	b	448.3
1954				
Kansas	21.1	148.5	----	169.6
U.S.	60.8	616.4	72.2	749.4
1955				
Kansas	21.9	210.1	----	232.0
U.S.	53.5	747.0	88.0	888.5
1956				
Kansas	20.0	224.6	----	244.6
U.S.	47.9	688.0	78.0	813.9
1957				
Kansas	16.8	252.0	----	268.8
U.S.	36.3	652.7	38.5	727.5
1958				
Kansas	16.3	220.0	----	236.3
U.S.	35.1	662.3	52.2	749.6
1959				
Kansas	12.9	367.3	----	380.2
U.S.	38.0	1,013.6	32.9	1,084.5
1960				
Kansas	13.1	351.7	----	364.8
U.S.	40.2	1,021.2	37.7	1,099.1
1961				
Kansas	12.7	404.0	----	416.7
U.S.	24.5	1,028.5	35.9	1,088.9
1962				
Kansas	11.5	404.6	----	416.1
U.S.	21.7	962.5	36.6	1,020.8

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

[b]Totals by position for Kansas and the United States omitted because information on wheat by position was unavailable.

TABLE 22.--Stocks of CCC-owned corn by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	4,623	202	4,825
U.S.	326,404	35,042	361,446
1954			
Kansas	5,759	1,342	7,101
U.S.	510,330	95,875	606,205
1955			
Kansas	6,614	2,018	8,632
U.S.	583,814	173,798	757,612
1956			
Kansas	7,382	3,927	11,309
U.S.	669,785	335,708	1,005,493
1957			
Kansas	7,725	7,470	15,195
U.S.	639,223	430,451	1,069,674
1958			
Kansas	6,981	1,884	8,865
U.S.	633,545	498,579	1,132,124
1959			
Kansas	6,141	5,478	11,619
U.S.	569,796	647,696	1,217,492
1960			
Kansas	10,914	7,470	18,384
U.S.	688,102	754,626	1,442,728
1961			
Kansas	12,473	3,015	15,448
U.S.	658,103	544,290	1,202,393
1962			
Kansas	12,317	3,631	15,948
U.S.	556,817	393,032	949,849

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

TABLE 23.--Stocks of CCC-owned soybeans by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	8	---	8
U.S.	588	721	1,309
1954			
Kansas	---	---	---
U.S.	2	1	3
1955			
Kansas	---	---	---
U.S.	6	299	305
1956			
Kansas	---	---	---
U.S.	c	1,390	1,390
1957			
Kansas	---	---	---
U.S.[d]	c	c	c
1958			
Kansas	---	---	---
U.S.	1,954	9,829	11,783
1959			
Kansas	12	6	18
U.S.	327	12,569	12,896
1960			
Kansas	25	---	25
U.S.	291	---	291
1961			
Kansas	---	---	---
U.S.	---	---	---
1962			
Kansas	46	674	720
U.S.	262	35,136	35,398

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

[b]157,405 bushels in transit.

[c]Less than 1,000 bushels.

[d]879,388 bushels in transit.

TABLE 24.--Stocks of CCC-owned rye by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	b	---	b
U.S.	4	140	144
1954			
Kansas	1	---	1
U.S.	1,458	870	2,328
1955			
Kansas	4	15	19
U.S.	675	2,631	3,306
1956			
Kansas	---	53	53
U.S.[c]	38	4,720	4,758
1957			
Kansas	b	5	5
U.S.[d]	10	774	784
1958			
Kansas	---	10	10
U.S.	205	1,531	1,736
1959			
Kansas	b	57	57
U.S.	290	2,453	2,743
1960			
Kansas	1	87	88
U.S.	403	3,556	3,959
1961			
Kansas	42	178	220
U.S.	138	3,061	3,099
1962			
Kansas	51	44	95
U.S.	64	264	328

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

[b]Less than 1,000 bushels

[c]816,000 bushels in transit

[d]920,713 bushels in transit

TABLE 25.--Stocks of CCC-owned grain sorghums by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	13	21	34
U.S.	14	31	47
1954			
Kansas	1,653	2,636	4,290
U.S.	1,720	14,736	16,456
1955			
Kansas	3	15,260	15,263
U.S.	7	48,979	48,986
1956			
Kansas	4	1,048	1,052
U.S.	4	58,805	58,809
1957			
Kansas	7	330	337
U.S.	14	63,513	63,527
1958			
Kansas	766	9,414	10,180
U.S.	2,549	254,620	257,169
1959			
Kansas	773	65,641	66,414
U.S.	3,864	475,591	479,455
1960			
Kansas	862	60,511	61,373
U.S.	5,259	540,576	545,835
1961			
Kansas	894	68,968	69,862
U.S.	5,259	580,048	585,307
1962			
Kansas	609	65,407	66,016
U.S.	4,823	539,770	544,593

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

TABLE 26.--Stocks of CCC-owned oats by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	---	---	---
U.S.	220	1,390	1,610
1954			
Kansas	59	---	59
U.S.	11,577	11,961	23,538
1955			
Kansas	351	212	563
U.S.	9,435	25,823	35,258
1956			
Kansas	---	90	90
U.S.	4,686	26,619	31,305
1957			
Kansas	---	---	---
U.S.	953	13,099	14,052
1958			
Kansas	17	252	269
U.S.	3,978	21,167	25,145
1959			
Kansas	48	71	119
U.S.	1,692	9,675	11,367
1960			
Kansas	---	66	66
U.S.	1,064	9,890	10,954
1961			
Kansas	1	---	1
U.S.	653	6,108	6,761
1962			
Kansas	7	---	7
U.S.	1,984	11,255	13,239

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

TABLE 27.--Stocks of CCC-owned barley by position in Kansas and the United States on December 31, 1953 through 1962[a]

Year	CCC Bin Sites	Commercial Warehouses	Total
	(Thousands of Bushels)		
1953			
Kansas	---	---	---
U.S.	32	489	521
1954			
Kansas	---	1	1
U.S.	4,270	7,053	11,323
1955			
Kansas	124	75	199
U.S.	1,307	29,955	31,262
1956			
Kansas	233	2	235
U.S.	2,034	36,849	38,883
1957			
Kansas	241	16	257
U.S.	1,827	35,775	37,602
1958			
Kansas	31	161	192
U.S.	9,381	59,850	69,231
1959			
Kansas	b	7	7
U.S.	12,351	48,777	61,128
1960			
Kansas	8	89	97
U.S.	13,148	38,390	51,538
1961			
Kansas	62	262	324
U.S.	12,161	19,786	31,947
1962			
Kansas	139	3,817	3,956
U.S.	7,461	20,097	27,558

[a]Source: Information obtained in correspondence with the Kansas City office of the Commodity Credit Corporation. Stocks include those stocks sold but not delivered. Does not include stocks in transit.

[b]Less than 1,000 bushels.

APPENDIX III

SPECIFICATIONS OF COMMINGLED AND IDENTITY PRESERVED STORAGE

Warehousemen have had a choice of two methods of storing and handling CCC-owned grain under the Uniform Grain Storage Agreement. These methods are the commingled and the identity preserved and which is used depends somewhat on how the grain is received and the provisions of the individual warehouseman's contract.

Grain stored and handled on an identity preserved basis must be segregated in a manner such that only that particular lot of grain will be delivered to the holder of the warehouse receipt. Such receipts are marked identity preserved and the grain is sealed in bins under the supervision of a disinterested custodian or under such other condition of supervision as CCC specifies. If grain is stored identity preserved the warehouseman is not liable for the quality of the grain unless he fails to provide satisfactory storage or unless he has failed to notify CCC that the grain is in danger of going out of condition. The warehouseman is liable for quantity of identity preserved grain including natural shrinkage.

Commingled storage requires only that the warehouseman maintain a stock of grain that is "fairly representative of the quality" of the grain defined by warehouse receipts held by CCC or other depositors. CCC grain must remain in the warehouse in which it was originally deposited.

Unless the contrary is agreed to in writing by CCC and the warehouseman prior to deposit of the grain, all grain accepted for storage is understood to be commingled. Grain accepted for handling only is also understood to be on a commingled basis unless the warehouseman notifies CCC of his intention to do otherwise. Grain accepted for direct transfer is considered to be identity preserved unless CCC specifies that it can be handled commingled.

Under commingled storage, the warehouseman is liable for all losses in quantity and quality of CCC grain stored in his facilities except those he is not required to insure against.

THE GROWTH OF STORAGE CAPACITY IN RELATION TO COMMODITY CREDIT CORPORATION STORAGE POLICY WITH PARTICULAR REFERENCE TO KANSAS TERMINAL ELEVATORS

by

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B. S., Kansas State University, 1962

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Agricultural Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1964

It is well-known that Commodity Credit Corporation has been a potent force in the marketing of grains due to its price-support and storage operations. The thesis upon which this abstract is based, is devoted to describing CCC operations and their effects on grain marketing in general, and the development of terminal storage facilities in Kansas, in particular.

The paper was begun with an introduction of the problem and followed by a brief explanation of objectives, procedures, and the sources of data. A section devoted to a review of literature, was included in order to provide the necessary background and a better understanding of the problem.

The history and purpose of the Commodity Credit Corporation was discussed in the next chapter. It was explained that CCC was originally part of the Reconstruction Finance Corporation, and was later put under the control of the United States Department of Agriculture. In addition, the chapter outlined the Uniform Grain Storage Agreement and described the policy used by CCC in storing grain acquired under price-support programs.

The paper continued with a discussion of CCC payments to grain firms for storage of grain. Tables showing capacity of commercial warehouses and stocks of CCC-owned grains for several years were included as a means of demonstrating the impact of the build-up of government grain stocks. The methods used to encourage storage facility construction were outlined also. The over-all purpose of the chapter was to define the magnitude of CCC storage operations.

Changes in number and location of terminal elevator facilities were brought out next. It was found that storage capacity of terminal

and sub-terminal facilities increased by more than 180 million bushels between 1955 and 1960. Over 140 million bushels of this storage space was constructed by only ten firms. It appeared the net effect of the huge increase was to concentrate ownership of facilities in the hands of a few major storage firms. The number of terminal and sub-terminal elevators more than doubled during the 1945-63 period.

Data obtained from surveys of Kansas terminal elevators and wholesale processing plants in 1954 and 1961 substantiated much of the material presented earlier in the paper. The surveys also revealed that warehouse facilities remained filled to high rate of occupancy in spite of the rapid increase in construction. The 1954 survey showed that terminal facilities were 80.1 per cent filled in 1953. In 1960, facilities were 86.0 per cent filled despite the fact that storage capacity was two and one-half times as great as in 1953. Maintenance of a high average inventory evidently made additional storage construction quite profitable.

Another interesting phenomenon disclosed by survey data was the position of regional cooperatives in Kansas grain merchandising. The cooperatives share of grain merchandised jumped from 13.6 per cent in 1953 to 44.9 per cent in 1960.

From the material presented in the thesis, it was concluded that price-support programs and the storage activities of CCC were primarily responsible for the increase in storage capacity. It was also apparent that CCC's policy of storing grain as near to its origin as possible was, in part, responsible for the pattern of elevator construction evidenced in Kansas and surrounding states. It was concluded that CCC's activities included the assumption of much of the financing and risk-bearing functions associated with grain marketing, and because of this, capital was released

for storage construction. Last, it was concluded that a serious situation may develop in regard to Kansas terminal and sub-terminal elevators if the nation's agricultural and trade policy is ever successful in equating supply and demand for wheat and feed grains.